

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 94-058

NPDES PERMIT NO. CA0029513.

WASTE DISCHARGE REQUIREMENTS FOR:

FASS METAL COMPANY
RICHMOND, CONTRA COSTA COUNTY

The California Regional Water Quality Board, San Francisco Bay Region (hereinafter the Board) finds that:

Description of Discharger

1. By application dated October 17, 1991 and additional information dated September 20, 1993, Fass Metal Company (hereinafter the Discharger) has applied for issuance of waste discharge requirements and a permit to discharge under the National Pollutant Discharge Elimination System.
2. The Discharger owns a metals accumulation facility located at 818 West Gertrude Street in the City of Richmond, Contra Costa County. Reusable metals such as aluminum, copper, etc. are collected, sorted, and distributed to recycling facilities. It is surrounded by wrecking yards and petrochemical processing facilities; the nearest residence is approximately one quarter mile to the east.
3. The site is a flat parcel roughly 100 feet by 312 feet. Approximately two to five feet of heterogeneous fill overlie a relatively uniform 202.5-foot thick layer of silty clay (Bay Mud). Soil is contaminated with polychlorinated biphenols (PCBs) and chlorobenzenes; analyses have detected up to 4040 parts per million (ppm) PCBs and up to 294 ppm chlorobenzenes in remaining on-site soils. Analyses of groundwater have detected up to the following concentrations of metals: 307 ppb copper, 28 ppb lead, 64 ppb nickel, 15 ppb silver, and 184 ppb zinc. The following inorganics have not been detected in groundwater at the following reporting limits (given in parentheses): arsenic (20 ppb), cadmium (10 ppb), chromium IV (20 ppb), cyanide (25 ppb), mercury (1 ppb), and PCBs (0.5 ppb).
4. The site has been in operation since 1957. Prior to 1978, Sacramento Municipal Utility District sold electrical transformers to Fass Metals for recycling as scrap metal. The transformers containing dielectric mineral oil were dismantled and drained. Due to Fass Metals' handling and recycling procedures, mineral oil was allowed to spill onto the ground at several places. Some mineral oil transformers are known to have contained PCBs and the soil contamination is a result of these activities.

Site Remediation

5. In February 1986, a surface water control system was implemented to control PCB migration through surface runoff. The surface water control system collects and temporarily stores storm water in a holding pond. The stored storm water is then treated to remove PCBs and discharged into Wildcat Creek. Board Order No. 89-047 was issued on April 19, 1989 to establish waste discharge requirements for this discharge.

6. The site is being remediated under the oversight of Cal-EPA, Department of Toxic Substances Control (DTSC). The Discharger conducted a remedial investigation to determine the nature and extent of PCB contamination and the data generated is contained in its Remedial Investigation (RI) Report dated August 15, 1988.
7. Based on the results of the RI, the Discharger researched and evaluated various remedial alternatives and presented its findings in a Final Feasibility Study (FS) dated June 28, 1989. Based on the findings of the FS, the Discharger prepared a Remedial Action Plan (RAP) which explained its rationale for its selected remedial alternative. After careful review and input from community members and interested parties, DTSC approved the final RAP dated May 10, 1990.
8. The approved remedial alternative for the site is an active containment system consisting of three primary components:
 - a. a perimeter soil/bentonite barrier (slurry wall) surrounding the contaminated area,
 - b. an extraction trench in the contaminated area from which the groundwater is pumped to an aboveground treatment system, and
 - c. a composite cap covering the contaminated area.
9. The extraction system will create an inward and upward hydraulic gradient to prevent contaminant migration outward through or underneath the slurry wall. The contaminated groundwater contained within the site will be continuously pumped through the extraction/treatment system.
10. The treatment system is designed to handle a maximum flow of 40 gallons per minute (57,600 gallons per day). However, such flow will only occur during the dewatering phase of the project. Dewatering is expected to take approximately 5 weeks. Flows are expected to be considerably less after dewatering. Effluent will be discharged to a storm sewer inlet located adjacent to the site. The storm sewer drains into Wildcat Creek (latitude 122 deg., 24 min, 35 sec.; longitude 37 deg. 56 min, 10 sec) and ultimately into San Pablo Bay.
11. The surface and groundwater treatment system will utilize sedimentation, sand filtration, activated carbon, and a metals polishing system using ion exchange resin. Sediments from the sedimentation tank, spent activated carbon, and resin will be disposed of at a site permitted to receive such wastes. This Order establishes effluent limits for the surface and groundwater treatment system for discharge into Wildcat Creek.

Basin Plan

12. The State Water Resources Control Board adopted Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality Waters in California," on October 28, 1968. This policy calls for maintaining the existing high quality of State waters unless it is demonstrated that any change would be consistent with the maximum public benefit, not unreasonably affect beneficial uses, and result in the water quality prescribed in water quality control plans and policies. Wastewater discharged in accordance with the requirements of this Order will comply with Resolution No. 68-16.
13. Board Resolution 88-160 requires that the discharger consider reclamation, re-use, or discharge to the local Publicly Owned Treatment Works (POTW) prior to discharge to the storm drain. The Discharger reports that treated surface and groundwater cannot be used for either process or irrigation supply. The site is located in an area that is not serviced by the local sanitary sewer

system and connection to the local POTW is infeasible. The Board finds that treated wastewater reclamation, re-use, or discharge to the local POTW is not feasible and an NPDES Permit is warranted.

14. The Board adopted a revised Water Quality Control Plan (Basin Plan) on September 16, 1992. The Basin Plan identifies beneficial uses and water quality objectives for groundwater, Wildcat Creek, San Pablo Bay, and contiguous surface water.
15. The existing and potential beneficial uses of Wildcat Creek, San Pablo Bay, and contiguous surface waters include:
 - a. Contact and non-contact water recreation
 - b. Wildlife habitat
 - c. Preservation of rare and endangered species
 - d. Estuarine habitat
 - e. Fish spawning and migration
 - f. Industrial service supply
 - g. Shellfishing
 - h. Navigation
 - i. Ocean commercial and sport fishing
16. The existing and potential beneficial uses of groundwater in the area include:
 - a. Industrial process supply
 - b. Industrial service supply
 - c. Agricultural supply
17. The Basin Plan prohibits discharge of wastewater which has particular characteristics of concern to beneficial uses at any point where the wastewater does not receive a minimum dilution of at least 10:1 or into any non-tidal water, dead end slough, similar confined water, or any immediate tributary thereof.
18. The Basin Plan allows for exceptions to the prohibitions referred to in Finding 17 above when it can be demonstrated that a net environmental benefit can be derived as a result of the discharge. Exception is warranted because the discharge is an integral part of a remediation program and thereby produces an environmental benefit. Effluent discharge concentrations are expected to be below levels that would affect beneficial uses. Should studies indicate unanticipated chronic effects, the Board will review the requirements of this Order based upon Receiving Water Limitations C.1.e.
19. Effluent limits in this Order are based on the Basin Plan, State plans and policies, U.S. Environmental Protection Agency guidance, National Ambient Water Quality Criteria, and best engineering judgment as to best available technology economically achievable.

California Environmental Quality Act

20. This Order is an action by a regulatory agency for the protection of the environment. It is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.

Notification and Meeting

21. The Board has notified Foss Metals and interested agencies and persons of its intent to issue Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written views and recommendations.
22. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the Discharger, its agents, successors, and assigns; in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder; shall comply with the following:

A. DISCHARGE PROHIBITIONS

1. Neither the treatment nor the discharge of waste shall create pollution, contamination, or nuisance as defined by Section 13050 of the California Water Code.
2. Bypass (as defined in Standard Provisions and Reporting Requirements A.12) of the storm water holding pond and other treatment units is prohibited during the construction of the slurry wall. Once the slurry wall and extraction trench are constructed and the holding pond has been filled in, then bypass of the extraction trench and any other treatment units is prohibited. Once the cap has been installed, then capture and treatment of the storm water falling on the cap will not be required, but any storm water collected in the extraction trench must be treated before discharge.
3. The maximum flow shall not exceed 57,600 gallons per day. Additional flow may be permitted upon written approval of the Board's Executive Officer.

B. EFFLUENT LIMITATIONS

1. The effluent at the point of discharge to the storm drain shall not contain constituents in excess of the following limits:

a. <u>Metals</u>	<u>Instantaneous</u>
	<u>Maximum (ppb or ug/l)</u>
Arsenic	5.0
Cadmium	1.1
Chromium (VI)	11.0
Copper	4.9
Cyanide	1.0
Lead	3.2
Mercury	0.01
Nickel	8.3
Selenium	5.0
Silver	2.3
Zinc	86.0

b. Others	Instantaneous <u>Maximum (ppb or ug/l)</u>
PCBs (total)	0.0001
VOCs (per constituent)	5.0

2. The discharge of waste shall meet the following quality limits:

- a. pH The pH of the discharge shall not exceed 8.5 nor be less than 6.5 units.
- b. TOXICITY: The survival of test species in bioassays of the undiluted effluent as discharged shall be a median of not less than 90% survival and a 90 percentile value of not less than 70%.

C. RECEIVING WATER LIMITATIONS

1. The discharge of waste shall not cause the following conditions to exist in waters of the State in any place:

- a. Floating, suspended, or deposited microscopic particulate matter or foam;
- b. Bottom deposits or aquatic growth;
- c. Alteration of temperature, turbidity, or apparent color beyond natural background levels;
- d. Visible, floating, suspended or deposited oil or other products of petroleum origin; or
- e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife or waterfowl; or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

- a. Dissolved oxygen 5.0 mg/l minimum. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen concentration at saturation. When natural factors cause lesser concentration(s) than specified above, the discharge shall not cause further reduction in the concentration of dissolved oxygen.
- b. pH The pH shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from normal ambient pH levels by more than 0.5 units.
- c. Un-ionized
 ammonia (as N) 0.025 mg/l annual mean maximum
 0.4 mg/l maximum at any time.

3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent requirements.

D. PROVISIONS

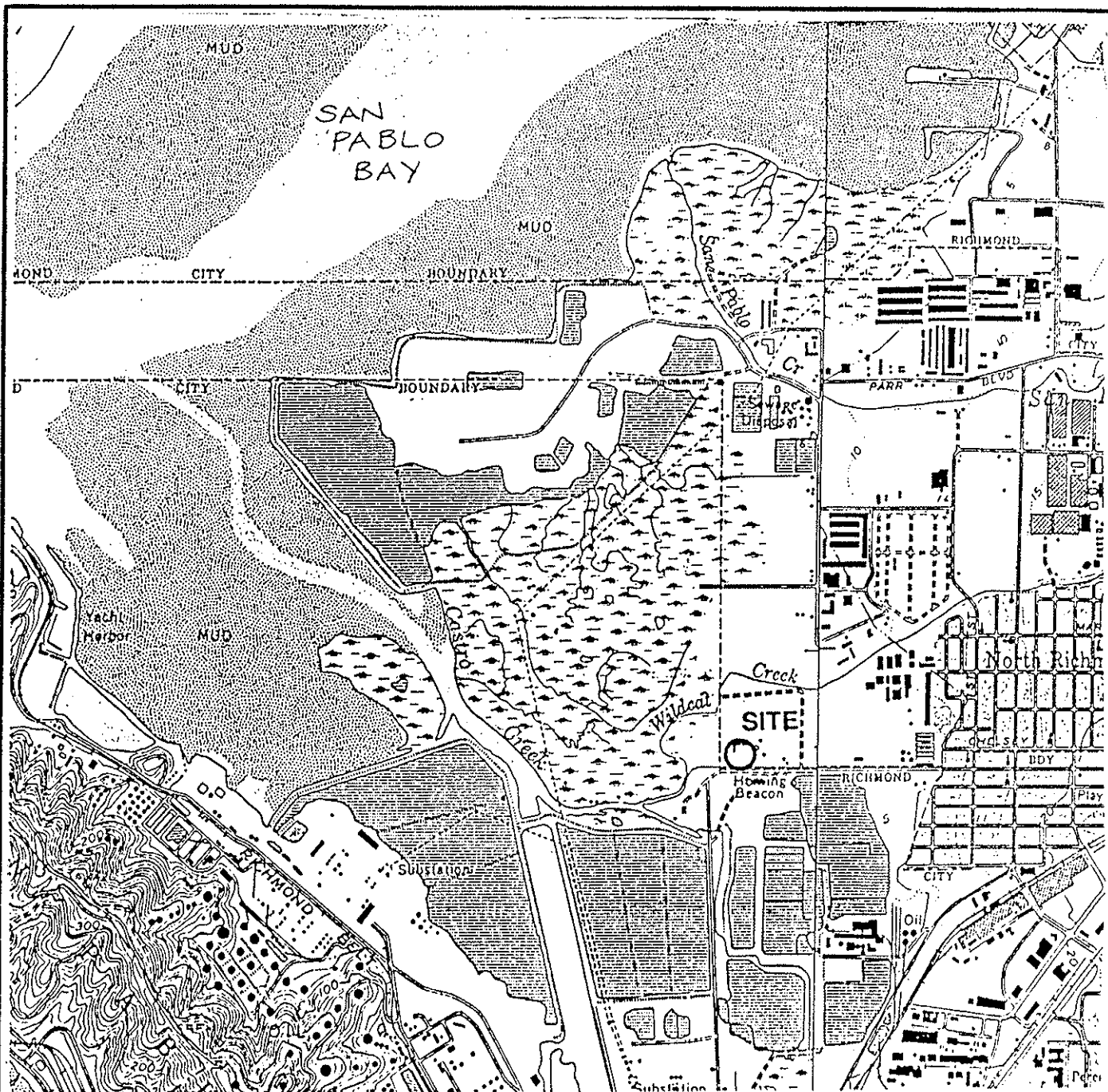
1. The Discharger shall comply with all sections of this Order immediately upon adoption.
2. All handling and disposal of solid wastes shall be in compliance with appropriate City and County requirements.
3. The Discharger shall comply with the Self-Monitoring program as adopted by the Board and as may be amended or modified by the Executive Officer.
4. The Discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated August 1993 except Sections B, D.2, and D.3.
5. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after the date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.
6. This permit may be modified prior to the expiration date to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge through the comprehensive monitoring program included as part of this Order.
7. Requirements in this Order supersede the requirements in Order No. 89-047. Order No. 89-047 is hereby rescinded.
8. This Order expires May 18, 1999. The Discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code no later than 180 days prior to the expiration date as an application for issuance of new waste discharge requirements.

I, Steven R. Ritchie, Executive Officer do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Board, San Francisco Bay Region on May 18, 1994.


STEVEN R. RITCHIE
EXECUTIVE OFFICER

Attachments:

- A. Site Map
- B. Standard Provisions, Reporting Requirements and Definitions dated August 1993
- C. Self-Monitoring Program, Parts A and B



MAP REFERENCE:
 Richmond and San Quentin
 7.5 Minute Quadrangles, USGS

STATE OF CALIFORNIA
 REGIONAL WATER QUALITY CONTROL BOARD
 SAN FRANCISCO BAY REGION

FASS METALS CO.
 SITE MAP

DRAWN BY:

DATE:

DRWG. NO.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

**FASS METAL COMPANY
RICHMOND
CONTRA COSTA COUNTY**

NPDES PERMIT NO. CA0029513

ORDER NO. 94-058

CONSISTS OF

PART A, dated August 1993

AND

PART B

PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT

<u>Station</u>	<u>Description</u>
I-1	At a point in the groundwater extraction/treatment system immediately prior to treatment.

B. EFFLUENT

<u>Station</u>	<u>Description</u>
E-1	At a point in the groundwater extraction/treatment system immediately following treatment.

C. RECEIVING WATERS

<u>Station</u>	<u>Description</u>
C-1	At a point no more than 200 feet downstream from the outfall (point of discharge).

D. HOLDING POND

<u>Station</u>	<u>Description</u>
P-1	At a point on the berms surrounding the holding pond.

II. BIOASSAY REQUIREMENTS

The Discharger will screen species from Table IV-2 (attached) of the Basin Plan or other suitable species and select an appropriate test species with approval from the Executive Officer. All bioassays shall be performed according to protocols approved by the U.S. EPA or State Board, or published by the American Society for Testing and Materials or American Public Health Association.

III. SCHEDULE OF SAMPLING AND ANALYSES

The Discharger shall follow the schedule of sampling and analyses as shown on Table 1 (attached).

IV. MODIFICATIONS TO PART A

Part A shall be modified as follows:

A. Section C.2.a. is changed to read:

Influent, effluent and receiving water sampling shall be collected in the same time period unless otherwise stipulated. The Board or Executive Officer may approve an alternate sampling plan if the Discharger can demonstrate that expected operating conditions warrant a deviation from the standard sampling plan.

- B. Section C.2.d. is changed to read:

On a case by case basis, the Discharger shall implement procedure(s) approved by the Executive Officer if any one constituent or parameter that is monitored less frequently than monthly (quarterly, annually, or other) exceeds the effluent limit or is otherwise out of compliance.

- C. Section C.2.e. is changed to read:

If any instantaneous maximum is exceeded, the discharge shall be terminated immediately upon its discovery, and shall not resume until the cause of the violation is found and corrected and/or the Executive Officer authorizes resumption of the discharge.

- D. In Section E.1, The phrase "(at the waste treatment plant)" is changed to read, "(at the Discharger's facility at 818 West Gertrude Avenue in Richmond)".

- E. The Annual Report required in Section F.5 shall be submitted in place of the end of the year monthly report.

V. MISCELLANEOUS REPORTING

- A. Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Limitations, and Provisions of this Order shall be provided to the following agencies:

- Regional Water Quality Control Board
San Francisco Bay Region
Toxics Cleanup Division
2101 Webster Street, Suite 500
Oakland, CA 94612
- California-EPA
Department of Toxic Substances Control
700 Heinze Avenue, Suite 200
Berkeley, CA 94710-2737
- Sacramento Municipal Utility District
6201 S Street
P.O. Box 15830
Sacramento, CA 95852-1830
Attention: Patrick W. Frost

- B. The Discharger shall obtain concurrence from the Board or the Executive Officer prior to the use of any chemicals or additives during the operation and/or maintenance of the extraction/treatment system. A report describing the need, method of chemical application and disposal shall be submitted to the Board at least 30 days before the use of any chemicals in treatment, or operation and maintenance of the treatment units, is to begin.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedures set forth in this Regional Board's Resolution 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 94-058.
2. Was adopted by the Board on May 18, 1994
3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the Discharger. Any revisions will be ordered by the Executive Officer or Regional Board.



STEVEN R. RITCHIE
EXECUTIVE OFFICER

Attachments:
Table IV-2
Table 1

TABLE IV-2
CRITICAL LIFE STAGE TOXICITY TESTS FOR ESTUARINE WATERS

Species	Effect	Test Duration	Reference
alga (<u>Skeletonema costatum</u>)	growth rate	4 days	1
red alga (<u>Champia parvula</u>)	number of cystocarps	7-9 days	5
giant kelp (<u>Macrocystis pyrifera</u>)	percent germination; germ tube length	48 hours	3
abalone (<u>Haliotis rufescens</u>)	abnormal shell development	48 hours	3
oyster (<u>Crassostrea</u> <u>gigas</u>); mussel (<u>Mytilus edulis</u>)	abnormal shell development; percent survival	48 hours	2
urchins (<u>Strongylocentrotus</u> <u>purpuratus</u> , <u>S. franciscanus</u>); sand dollar (<u>Dendraster</u> <u>excentricus</u>)	percent fertilization	1 hour	4
shrimp (<u>Mysidopsis bahia</u>)	percent survival; growth; fecundity	7 days	5
silversides (<u>Menidia beryllina</u>)	larval growth rate; percent survival	7 days	5

Toxicity Test References

1. American Public Health Association. 1985. Toxicity testing with phytoplankton (tentative). Pp. 735-737. In: Standard methods for the examination of water and wastewater. APHA, Washington, DC.
2. American Society for Testing Materials (ASTM). 1987. Standard Practice for conducting static acute toxicity tests with larvae of four species of bivalve molluscs. Procedure E 724-80. ASTM, Philadelphia, PA.
3. Anderson, B.S., J.W. Hunt, S.L. Turpen, A.R. Coulon, M. Martin, D.L. McKeown, and F.H. Palmer. 1990. Procedures manual for conducting toxicity tests developed by the marine bioassay project. California State Water Resources Control Board, Sacramento.
4. Dinnel, P.J., J. Link, and O. Stober. 1987. Improved methodology for sea urchin sperm cell bioassay for marine waters. Archives of Environmental Contamination and Toxicology 16:23-32.
5. Weber, C.I., W.B. Horning, II, D.J. Klem, T.W. Neihsel, P.A. Lewis, E.L. Robinson, J. Menkedick, and F. Kessler. (eds.) 1988. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to marine and estuarine organisms. EPA-600/4-87/028. National Technical Information Service, Springfield, VA.

TABLE 1
Schedule for Sampling, Measurements, and Analyses

SAMPLING STATION	I-1	E-1	C-1	P-1
Type of Sample	G	G	G	G
Flow Rate (gpm and gpd)		Continuous		
Fish Toxicity, 96-Hour (% survival)		2/Y		
pH (units)	M	M		
Dissolved Oxygen (mg/l and % saturation)	M	M		
Temperature (C)	M	M		
Electrical Conductivity	M	M		
Un-ionized ammonia (mg/l as N)	M	M		
Metals, Total (ug/l & g/d): Antimony Arsenic Cadmium Chromium, Total or Hexavalent Copper Cyanide Lead Mercury Nickel Selenium Silver Zinc	M	M	2/Y	
All Applicable Standard Observations		M	M	M
PCBs (ug/l & g/day)	M	M	V	
VOCs of concern (ug/l & g/day)	M	M	V	

ug/l = micrograms per liter
mg/l = milligrams per liter
g/d = grams per day
gpm = gallons per minute
gpd = gallons per day

I = influent stations
E = effluent stations
C = receiving water stations
P = pond stations

G = grab sample
M = once each month
2/Y = twice per year in June and December
V = Sampling should be performed within 24 hours whenever the effluent (E-1) is in violation